

WHAT IS CLAIMED IS:

1. A hitch device for attaching farm implements to a tractor, the device comprising two lift arms for supporting at least one farm implement; an
5 actuating cylinder for each lift arm, the actuating cylinder having an output rod defining two chambers inside the actuating cylinder; and a circuit for feeding a fluid to and from said chambers; wherein said circuit comprises, for each said chamber, two feed lines for feeding said fluid to and from the chamber respectively, and also comprises four independent valves; each valve being
10 located along one of said feed lines, and being movable between a closed position and at least one open position respectively closing and opening the relative said feed line.

2. The device as described in claim 1, wherein each said valve is a proportional electromagnetic valve.

15 3. The device as described claim 2, wherein said actuating cylinder has a first detecting device for detecting a fluid pressure inside each of said chambers to determine a force exerted, in use, on said output rod; electronic control means being provided to selectively control said valves as a function of a signal from said first detecting device.

20 4. The device as described in claim 3, wherein said actuating cylinder has a second detecting device for detecting a position of said output rod along the actuating cylinder; electronic control means being provided to selectively control said valves as a function of a signal from said second detecting device.

5. The device as described in claim 4, wherein said actuating cylinder

has a first detecting device for detecting a fluid pressure inside each of said chambers to determine a force exerted, in use, on said output rod; and a second detecting device for detecting a position of said output rod along the actuating cylinder; electronic control means being provided to selectively control said
5 valves as a function of a signal from said first and/or said second detecting device.

6. The device as described in claim 5, wherein said farm implement is connected in rotary manner to said lift arms to oscillate about a given hinge axis; a further actuating cylinder being interposed between the tractor and the farm implement to selectively control an angular position of the farm implement about
10 said hinge axis.

7. The device as described in claim 6, wherein said further actuating cylinder comprises a further output rod defining two further chambers inside the further actuating cylinder; said circuit also comprising two further feed lines for feeding said fluid to and from each said further chamber respectively, and four
15 independent further valves, each located along one of said further feed lines and movable between a closed position and at least one open position respectively closing and opening the relative said further feed line.

8. The device as described in claim 7, wherein each said further valve is a proportional electromagnetic valve.

20 9. The device as described in claim 8, wherein said further actuating cylinder has a third detecting device for detecting a fluid pressure inside each of said further chambers to determine a force exerted, in use, on said further output rod; electronic control means being provided to selectively control said further valves, as a function of a signal from said third detecting device.

10. The device as described in claim 9, wherein said further actuating cylinder has a fourth detecting device for detecting a position of said further output rod along the further actuating cylinder; electronic control means being provided to selectively control said further valves as a function of a signal from
5 said fourth detecting device.

11. The device as described in claim 10, wherein said further actuating cylinder has a third detecting device for detecting a fluid pressure inside each of said further chambers to determine a force exerted, in use, on said further output rod; and a fourth detecting device for detecting a position of said further output
10 rod along the further actuating cylinder; electronic control means being provided to selectively control said further valves as a function of a signal from said third and/or said fourth detecting device.

12. The device as described in claim 11, wherein said circuit comprises a piston pump.

13. The device as described in claim 12, wherein said circuit comprises a feed assembly, in turn comprising a tank for said fluid; a gear pump for drawing fluid from said tank; a drain line for draining the gear pump into the tank; and a compensating valve located along said drain line and movable between an open position and a closed position respectively opening and closing the drain line.
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14. The device as described in claim 13, wherein said circuit comprises a feed assembly, in turn comprising a tank for said fluid; a piston pump and a gear pump for drawing fluid from said tank; a drain line for draining the gear pump into the tank; a drain valve located along said drain line and movable between an open position and a closed position respectively opening and closing the drain
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line; a connecting line connecting said piston pump and said gear pump; and a compensating valve located along said connecting line and movable between an open position and a closed position respectively opening and closing the connecting line.